



**Economic and Social
Council**

Distr.
GENERAL

TRANS/SC.3/WP.3/2004/22
29 March 2004

Original: English

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

Working Party on Inland Water Transport

Working Party on the Standardization of Technical
and Safety Requirements in Inland Navigation

(Twenty-eighth session, 8-10 June 2004
agenda item 6)

**ESTABLISHMENT OF COMMON PRINCIPLES AND TECHNICAL REQUIREMENTS
FOR A PAN-EUROPEAN RIVER INFORMATION SERVICE (RIS)**

Reproduced below for consideration by the Working Party SC.3/WP.3 is the “Standard for Electronic Ship Reporting in Inland Navigation” of 28 May 2003. The Standard for Electronic Ship Reporting in Inland Navigation is one of the RIS related technical standards together with Inland ECDIS (Electronic Chart Display and Information System for Inland Navigation, TRANS/SC.3/156), Notices to Skippers for Inland Navigation (TRANS/SC.3/WP.3/2004/21), Inland AIS (Inland Automatic Identification System), Inland VTS (Guidelines and Criteria for Vessel Traffic Services in Inland Waters TRANS/SC.3/WP.3/2003/10), etc. The text of the Standard has been transmitted by the delegation of the Netherlands.

Annexes 1-4 to the Standard for Electronic Ship Reporting in Inland Navigation are not reproduced in this document for reasons of economy but will be available in English and French on the website of the UNECE Working Party SC.3/WP.3: http://www.unece.org/trans/main/sc3/wp3/wp3doc_2004.html.

Standard for Electronic Ship Reporting in Inland Navigation

28 May 2003

Contents

1. Purpose and scope
2. Definitions
3. Normative references
4. Messaging procedures
5. RIS services to be supported
6. EDIFACT messages
7. Classifications and code lists
8. Confidentiality and security of information

Annexes

1. Data items to be reported in the different services and functions of RIS
2. ERINOT message branching diagram
3. ERI message specifications
4. Classifications (codes)
 - 4.1 Codes for types of means of transport in inland navigation, Recommendation No. 28 of UNECE, extract for inland navigation with amendments by the CCNR for usage in the Standard for Electronic Ship Reporting in Inland navigation, 26 August 2002 (to Annex 4, No. 1)
 - 4.2 Vessel and convoy type codes in four languages (to Annex 4, No. 1)
 - 4.3 Examples for the combination of elements in the location code (to Annex 4, Nos. 11 – 14)

Abbreviations

ADN	European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways (EU Council Directive 94/95/EC)
ADNR	Regulation on the Transport of Dangerous Goods on the Rhine
AIS	Automatic Identification System
ATIS	Automatic Transmitter Identification System
BICS	Binnenvaart Informatie en Communicatie Systeem (Electronic Reporting System)
CN	Combined Nomenclature (on Goods)
CUSCAR	Customs Cargo Report (Message)
CUSDEC	Customs Declaration (Message)
ECDIS	Electronic Chart Display and Information System
EDI	Electronic Data Interchange
EDIFACT	Electronic Data Interchange for Administration, Commerce and Transport
ERI	Electronic Reporting International
ERINOT	ERI Notification (Message)
ERIRSP	ERI Response (Message)
ERN	Electronic Reporting Number
HS	Harmonized System Code
IFTDGN	International Forwarding and Transport Dangerous Goods Notification (Message)
IFTMIN	Instruction (Message)
IMDG	IMO Dangerous Goods (Number)
IMO	International Maritime Organization
IMO-FAL	Convention on the Facilitation of International Maritime Traffic, 1965, with amendments
INDRIS	Inland Navigation Demonstrator for River Information Services
ISO	International Standardisation Organisation
NST/R	Standard Goods Classification for Transport Statistics / Revised
OFS	Official Ship Number
PAXLST	Passenger List (Message)
PIANC	International Navigation Association
PROTECT	International Organisation of North Europeans Ports Dealing with Dangerous Goods
PSTN	Public Switched Telephony Network; thus the normal telephone network, either mobile or fixed.
RIS	River Information Services
UN/CEFACT	UN Centre for Trade Facilitation and Electronic Business
UNECE	United Nations Economic Commission for Europe
UN/LOCODE	United Nations Location Code
UNDG	United Nations Dangerous Goods (Number)
UNTDID	United Nations Trade Data Interchange Directory
VHF	Very High Frequency
VTS	Vessel Traffic Services
XML	Extended Markup Language

Standard for Electronic Ship Reporting in Inland Navigation

1 Purpose and scope

(1) It is the purpose of this standard to facilitate electronic data interchange (EDI) between partners in inland navigation as well as partners in multi-modal transport with involvement of inland navigation.

(2) This standard intends to avoid reporting the data related to a voyage more than once to different authorities and/or commercial parties.

(3) This standard provides rules for the interchange of electronic messages between partners in the field of inland navigation. Public authorities and other parties concerned (ship owners, skippers, shippers, ports) shall exchange data in conformity with this standard.

(4) This standard describes the messages, data items and codes to be used in electronic ship reporting for the different services and functions of River Information Services.

(5) This standard is based on internationally accepted trade and transport standards and classifications and complements these for inland navigation. The standard reflects the experiences that have been gained in the European Research and Development Project INDRIS and in the applications of reporting systems in different countries - especially the Dutch application BICS. New developments that have been undertaken in the Working Group "Electronic Reporting International (ERI)" are included.

(6) This standard contains the basic and most important regulations for electronic ship reporting. Some regulations for special conditions have to be complemented after further experiences have been gained. The concerned fields are mentioned in footnotes to the respective paragraphs of this standard.

(7) In order to achieve compatibility with maritime navigation, two documents of the European Commission have been considered:

- Directive 2002/6/EC of the European Parliament and of the Council of 18 February 2002 on reporting formalities for ships arriving in and/or departing from ports of the Member States of the Community,
- Directive 2002/59/EC of the European Parliament and of the Council of 27 June 2002 establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC.

(8) In this standard the relation between private parties (shippers, skippers, terminal operators, fleet managers) and public parties (waterway authorities, public ports) is addressed. The relations between private parties without interference to public partners (e.g. between skippers and terminal operators) are not addressed.

2 Definitions

See:

- UN/EDIFACT Glossary, edited by UNECE (www.unece.org/trade/untdid/texts/d300_d.htm),
- “Transport & Logistics Glossary“ by P&O Nedlloyd, November 2000.

The following generally customary terms are used in this standard:

Barge means a vessel that has no propulsion of its own.

Bulk Cargo means unpacked homogenous cargo poured loose in a certain space of a vessel or container e.g. oil or grain.

Code means a character string used as an abbreviated means of recording or identifying information.

Competent authority means the authorities and organisations authorised by the governments to receive and pass on information reported pursuant to this standard.

Consignee means the party such as mentioned in the transport document by whom the goods, cargo or containers are to be received.

Consignor means the merchant by whom, in whose name or on whose behalf a contract of carriage of goods has been concluded with a carrier or any party by whom, in whose name or on whose behalf the goods are actually delivered to the carrier in relation to the contract of carriage (Synonyms: Shipper, Sender).

Data Element means a unit of data which, in certain context, is considered indivisible and for which the identification, description and value representation has been specified.

EDI number means the electronic address of the sender or receiver of a message (e.g. the sender and receiver of the cargo). This may be an E-mail address, an agreed identifier or a number of the European Article Numbering Association (EANA number).

Electronic Data Interchange (EDI) means the transfer of structured data by agreed standards from applications on the computer of one party to applications on the computer of another party by electronic means.

Electronic reporting international (ERI) means the endeavour to harmonise inland ship reporting in Europe, recommended by the ERI Group.

Forwarder means the party arranging the carriage of goods including connecting services and/or associated formalities on behalf of shipper and consignee.

Procedure means the steps to be followed in order to comply with a formality, including the timing, format and transmission method for the submission of required information.

Shipmaster means the person on board of the ship being responsible for the operation of the ship and having the authority to take all decisions pertaining to navigation and ship management. (synonyms: captain, skipper).

Transport notification means the announcement of an intended voyage of a ship to a competent authority.

UN/EDIFACT means the UN rules for Electronic Data Interchange for Administration, Commerce and Transport. They comprise a set of standards, directories and guidelines for the electronic interchange of structured data, and in particular that related to trade in goods or services between independent computerised information systems. Recommended within the framework of the UN, the rules are approved and published by the UNECE in the UN Trade Data Interchange Directory (UNTDID) and are maintained under agreed procedures.

Vessel (synonym: ship): In inland navigation, this term includes also small crafts, ferry boats and floating equipment.

Asynchronous Message means a message that can be delivered by the sender without explicitly having to wait for the processing of the message by the receiver. The receiver decides when to process the message.

3 Normative References

- PIANC Guidelines and Recommendations for River Information Services, 2002 (RIS Guidelines 2002)
- United Nations Trade Data Interchange Directory (UNTDID) for EDIFACT:
 - Part 1: Introduction
 - Part 2 : Uniform rules of conduct for interchange of trade data by teletransmission (UNCID)
 - Part 3: Terms and definitions
 - UN/EDIFACT Glossary
 - Part 4: UN Rules for EDIFACT
 - Chapter 1:Introduction
 - Chapter 2: General information

- 2.1. Establishment of UN Standard Message Types (UNSM)
- 2.2 UN/EDIFACT application level syntax rules (ISO 9735-1)
- 2.3 UN/EDIFACT syntax implementation guidelines
- 2.4 UN/EDIFACT message design guidelines
- 2.5 UN/EDIFACT directory version/release procedures
- 2.6 General description to UNSM descriptions
- Part 5: UNSM Specifications
 - Chapter 1: Introduction
 - Chapter 2: Message type directory EDMD (Edition 98.B, which is stable and recommended by the IMO)
 - Chapter 3: Segment directory EDSD
 - Chapter 4: Composite data element directory EDCD
 - Chapter 5: Data element directory EDED
 - Chapter 6: Consolidated code list UNCL
- UNECE: Trade Data Elements Directory UNTDED
 - Volume I: Standard data elements (ISO 7372)
 - Volume II: User code list
 - Volume III: Compendium of trade facilitation recommendations with i.a.:
 - Rec. 3: ISO country code for representation of names of countries
 - Rec. 10: Codes for ship names
 - Rec. 16: UN/LOCODE – Code for ports and other locations
 - Rec. 19: Codes for modes of transport
 - Rec. 20: Codes for units of measurements used in international trade
 - Rec. 25: Use of UN/EDIFACT
 - Rec. 26, Annex: Model interchange agreement for the international commercial use of electronic data interchange

- Rec. 28: Codes for types of means of transport

- PROTECT Dangerous Goods Message Scenario, Version 1.0, January 1999
- IMO Compendium on Facilitation and Electronic Business “Electronic Data Interchange (EDI) for the Clearance of Ships”, 2001 edition, FAL.5/Circ. 15
- IMO Convention on the Facilitation of International Maritime Traffic (FAL), 1965 with amendments.

Normative references on classifications (codes) are given in Annex 4

4 Messaging Procedures

4.1 Ship-to-authority messaging

(1) Ship-to-authority messaging consists mainly of:

- 1 Transport notification messages on the voyages of loaded or empty ships within the jurisdictional area of the authority where such is applicable.
- 2 Arrival notification and position reports at locks, bridges, reporting points of traffic centres.

(2) Ship-to-authority messaging is not confined to messages sent from a ship directly to the authority. All messages concerning the ship, sent by or on behalf of the ship, count as ship-to-authority messaging even if sent by shippers ashore.

(3) If a permit for entering a jurisdictional area is needed, the notification shall be sent already at the start of the voyage to the authority and when entering the area.

4.1.1 Transport notification

(1) The transport notification message is used to inform the authorities of the intention to make a specified voyage with a specified ship either carrying a specified cargo or being empty.

(2) The transport notification can either originate from the skipper of the ship or from the shipper of the cargo on behalf of the skipper.

(3) Transport notifications shall be sent before the start of a voyage, before entering the jurisdictional area of an authority and after every significant change of the voyage data, e.g. number of crew on board or number of barges in the convoy. If a ship requires a permit for (a part of) the voyage, the competent waterway authority shall return an acknowledgement after processing the notification. This can indicate a permission or a refusal.

(4) Transport notification message exchanges shall be sent asynchronous but within short time.

(5) Every authority shall accept messages delivered as E-mail (electronic mail) in accordance with the message specification, either directly in the text or preferably as attachment to the E-mail. The mailbox itself shall be reachable directly by public telephone (PSTN) and indirectly through the Internet.

(6) Any authority can decide to accept additional other means of delivery. In case where notifications are given in the traditional way (e. g. on paper, by fax, by VHF), but further processed in an electronic way, the information has to be given in a way that it can be entered into an electronic system by the operators of the traffic centre, the lock or the bridge.

4.1.2 Arrival notification and position report

(1) The arrival notification shall be used to inform local waterway operators -- such as lock masters, bridge operators, traffic centre operators, ports and docking crew -- of the impending arrival of a ship. Arrival notifications shall be sent before arrival at a lock, bridge or port.

(2) Position reports shall be sent at certain reporting points at the waterway.

(3) Arrival notifications and position reports can be obtained by several means, either active or passive ^{1/}:

1 Visual / manual

The traditional way of notifying the arrival of a ship is visual. The exact time of arrival at the specific point is noted and in some cases manually entered into a computer system.

2 By VHF radio

The ship may inform the lock or bridge of its presence by VHF. In this case the ATIS code can be used to identify the calling ship and to insert the passage of the ship into the waiting queue of the lock's computer system. In this case, visual or radar control by the lock master is still necessary to avoid vessels entering themselves into the waiting queue prematurely.

3 By transponders (Automatic Identification System, AIS)

As transponders become more frequently used, they will probably be the ideal way of announcing the arrival of a ship. In addition they can send extra information, such as the presence of hazardous cargo on board ^{2/}.

^{1/} These and other arrival and position reports are not specified in this standard.

^{2/} To be defined in the Standard for Tracking and Tracing in Inland Navigation.

4.2 Authority-to-authority messaging

- (1) Authority-to-authority messaging consists mainly of transport notifications for ships, either carrying cargo or being empty, travelling from one jurisdictional area to the other.
- (2) A message shall be sent to the neighbouring authority if the ship passes a mutually agreed point on the fairway.
- (3) All messages shall be sent asynchronous but within short time. The sending authority is allowed to ask for acknowledgement from the receiving authority.
- (4) Every authority shall accept messages delivered as electronic mail in accordance to the message specification, either directly in the text or preferably as attachment to the E-mail. The mailbox itself shall be reachable either directly by public telephone (PSTN) and / or indirectly through the Internet. Authorities can decide to accept additional other means of delivery, for example a direct connection between the systems. These requirements are applicable also for port authorities which take part in such a service.
- (5) If it is intended to forward a ship-to-authority-message from a waterway authority to a public port or a terminal, the skipper or shipper has to give the allowance explicitly in the original transport notification message.

4.3 Authority-to-ship messaging

- (1) Authority-to-ship messaging consists mainly of acknowledgements and responses to previously submitted notification messages on travelling within the jurisdictional area of the authority.
- (2) Authority-to-ship messaging could also encompass the sending of fairway information, such as notices-to-skippers and hydro-meteo information. This type of information is not dealt with in this standard.^{3/}
- (3) All messages shall be asynchronous but within short time.
- (4) Every sender of a notification message (skipper or shipper) participating in electronic reporting shall have access to a personalised mailbox to allow the reception of messages sent by an authority as electronic mail in accordance with the message specification, either as plain text or preferably as attachment to the electronic mail. To ensure the ease of use, such a mailbox shall be accessible by all parties in a permanent and consistent fashion taking into account costs, maintainability and convenience.

^{3/} The inclusion of notices-to-skippers into electronic ship reporting is dealt with in the standardisation of notices-to-skippers with direct relation to Inland ECDIS

(5) Authorities shall not send messages which do not comply with published standards. Authorities may only implement and send non-standard messages for specific purposes unique to the particular combinations of applications.

5 RIS services and functions to be supported

(1) The following services are identified to be supported by electronic ship reporting^{4/}:

- 1 Traffic management (strategic traffic information, lock and bridge management)
- 2 Calamity abatement
- 3 Transport management (port and terminal management, fleet and cargo management)
- 4 Statistics
- 5 Waterway infrastructure charges
- 6 Border control
- 7 Customs services.

The data items to be used in the different services are depicted in Annex 1 with some additional definitions.

6 EDIFACT messages

(1) In electronic ship reporting, information is exchanged using messages.

(2) The message standard currently in use is UN/EDIFACT that has the syntax rules for the message structure (ISO 3795-1). A recently developed competitive syntax is XML which is flexible and independent of the data format. Both, EDIFACT and XML use the same data structures and code tables. XML messages are much larger than EDIFACT messages. Since UN are still in the middle of XML message design, only EDIFACT is considered in this standard.

(3) The ERI format for the dangerous goods notification is the UN/EDIFACT “International Forwarding and Transport Dangerous Goods Notification (IFTDGN) message”. The port authorities of Antwerp, Bremen, Felixstowe, Hamburg, Le Havre and Rotterdam have derived the PROTECT message from the IFTDGN message. Out of PROTECT, the ERI notification message has been derived for inland navigation. This procedure ensures that conformity between maritime and inland navigation is granted for dangerous and polluting goods.

(4) Using some liberties of the IFTDGN message, the ERI notification message has been extended to allow non-dangerous goods to be notified. This feature allows to put all data of the transport or voyage notification (ship and cargo data of a voyage) in one single message.

(5) In this standard the following notation for acronyms has been used:

^{4/} see RIS Guidelines 2002, ch. 4.5

UPPER CASE: Original EDIFACT message

UPPER BOLD CASE: ERI message derived from EDIFACT message

- (6) The structure of the ERI message is given in the branching diagram of **Annex 2**.
- (7) The following messages shall be used in electronic ship reporting on inland waterways:
- **ERINOT**, means “ERI Notification Message”, derived from the IFTDGN 98B message and the PROTECT 1.0 message with the following **types**:
 - Transport notification from vessel to authority (identifier “VES”), from ship to shore
 - Transport notification from carrier to authority (“CAR”), from shore to shore
 - Passage notification (“PAS”), from authority to authority and the following **functions** to show what can be expected:
 - New message (identifier "9")
 - Modification of message (“5”)
 - Cancellation of message (“1”).
 - **ERIRSP**, means “ERI Response Message”, derived from the APERAK message.
 - PAXLST, means the “Passenger List Message” , using the IMO-FAL Form 6, including passengers, crew and service personnel.
 - CUSCAR, means the “Customs Cargo Report Message”, using the IMO-FAL Form 2, as accepted by the G7 Group and the World Customs Organisation.
 - CUSDEC, means the “Customs Declaration Message”.
 - IFTMIN, means the “Instruction message” from barge operator to skipper with the functions.
 - container transport
 - tank transport ^{5/}
- (8) The following table defines the usage of the messages:

^{5/} To be developed within the work of the BICS container ship and the BICS tank ship expert groups

RIS Service and Function	Messages (and their types) in the procedures		
	Ship-to-authority	Authority-to-ship	Authority-to-authority
Traffic management	ERINOT (VES) ERINOT (CAR)	ERIRSP Notices to skippers	ERINOT (PAS)
Calamity abatement	ERINOT (VES) ERINOT (CAR) PAXLST	ERIRSP Notices to skippers	ERINOT (PAS) PAXLST
Transport management	ERINOT (VES) ERINOT (CAR) CUSCAR, CUSDEC	ERIRSP Notices to skippers	ERINOT (PAS) CUSCAR, CUSDEC
Statistics	ERINOT (VES) ERINOT (CAR) PAXLST CUSCAR, CUSDEC		
Waterway charges	ERINOT (VES) ERINOT (CAR)	ERIRSP	
Border control	PAXLST	ERIRSP	PAXLST
Customs services	CUSCAR, CUSDEC	ERIRSP	CUSCAR, CUSDEC

- (9) The reporting procedure shall always start with the **ERINOT** message and send additional data by the PAXLST, CUSCAR and CUSDEC ⁶ messages, using a reference to the **ERINOT** message
- (10) The EDIFACT messages shall be applied without any change. Their definitions can be found in the UNECE UNTDID.
- (11) The specifications for the **ERINOT** and **ERIRSP** messages are given in **Annex 3**.

7 Classifications and code lists

- (1) In order to minimise translating work to be done by the receivers of messages, classifications and code lists shall be used to the highest possible extent.
- (2) Existing codes shall be used in order to avoid special work to be done for the assembling and maintenance of new code lists.
- (3) The following classifications shall be used in inland ship reporting:

^{6/} The implementation manual for the specific use of these 3 messages in inland navigation has still to be developed.

- 1 Vessel and convoy type
- 2 Official ship number (OFS)
- 3 IMO ship identification number (IMO)
- 4 ERI ship identification number
- 5 Harmonized commodity description and coding system 2002-(HS, goods)
- 6 Combined nomenclature (CN, goods)
- 7 Standard goods classification for transport statistics /Revised (NST/R) (goods)⁷
- 8 UN dangerous goods number (UNDG)
- 9 International maritime dangerous goods code (IMDG)
- 10 ADNR
- 11 UN code for country and nationality
- 12 UN code for trade and transport locations
- 13 Fairway section code
- 14 Terminal code
- 15 Freight container size and type code
- 16 Container Identification code
- 17 Package type code

(4) Details and remarks on application of these codes in inland navigation are given in **Annex 4**.

(5) The codes for types of means of transport in inland navigation are given by Recommendation No. 28 of the UN/ECE (**Annex 4.1**). The usage of the convoy and vessel type codes in the ERINOT message is given in **Annex 4.2** together with the names in 4 languages. Examples for the combination of the elements of the above named codes 11 to 14 are given in **Annex 4.3**

8 Confidentiality and security of information

(1) The competent authorities shall take the necessary measures to ensure the confidentiality, integrity and security of information sent to them pursuant this standard. They must use such information only for the purposes of the intended services, for example calamity abatement, border control, customs.

(2) An interchange agreement on the protection of privacy between all involved public and private parties shall be concluded for new applications, based on UNECE Recommendation 26 that contains an example “Model Interchange Agreement” in general terms.

^{7/} Since the 4-digit NSTR/codes of the different countries are not compatible, it is strongly recommended to use the common HS code of the World Customs Organization for cargo description.